Carlisle Motion Control Industries Inc.

Virginia's A.L. Philpott Manufacturing Extension Partnership

Incorporating Set-Up Reduction Techniques Benefits Carlisle Motion Control

Client Profile:
Carlisle Motion Control Industries, Inc., a subsidiary of a Carlisle Companies, Inc., a diversified global manufacturing company, manufactures brake products for the heavy-duty trucking industry. Founded in 1938, the company has expanded its product line to include a wide variety of application-specific friction materials, as well as brake shoe re-manufacturing and spring brakes. The South Hill, Virginia, operation employs 115 people and is a state-of-the-art specialty friction production facility providing a variety of brake components in response to varying levels of demand.

Situation:
As part of the manufacturing process, brake components require a substantial amount of drilling accomplished by any one of the several multi-head drills in the facility. Different drilling configurations are required for components comprising each product family. Each new configuration requires a changeover of the drill and some changeovers can be extensive. Carlisle Motion believed that there was an opportunity to reduce the changeover time for the major set-ups by using lean manufacturing techniques. To pursue this opportunity, Carlisle Motion contacted Virginia's Philpott Manufacturing Extension Partnership (VPMEP), a NIST MEP network affiliate. Previously VPMEP had assisted Carlisle Motion with implementation of QS 9000 at the South Hill facility.

Solution:
VPMEP Project Manager, Mark Oakes, videotaped a changeover in order to identify opportunities for reduction. The time required to perform this specific changeover was just under two hours. Calculations based on the cycle time and the average cost of the product family determined that each hour of production was worth in excess of $1,000 contingent on customer product availability. Carlisle created a cross-functional team to address the changeover issues. VPMEP provided classroom instruction (which included a simulation) to the team on the techniques of set-up reduction. Following the instruction, the team reviewed the videotape of the drill changeover and began applying the reduction techniques. During the group analysis of the videotape, the team determined that the present system lacked organization in many areas including task sequencing, tooling availability and visual identification aids. The team created an improved set-up procedure and developed a list of additional action items to facilitate the improvement process.

Results:
* Reduced changeover time for set-ups by 15-20 minutes, a savings of one to one and one-half hours per day.
* Produced cost savings of $325,000 annually.

Testimonial:

"The training that was presented by Mark Oakes (VPMEP) was very well prepared and presented in a very clear and understandable format. Associating a dollar figure with the time machines when not running gave some of the members of the team a different view of downtime. The training has been embraced by the team members making this effort successful."

Steve Harris, Production Manager